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Creation of high strength composite materials which show a biodegradation in the conditions of deposition

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Abstract

The work presents researches of polymer compositions based on polyamide filled with fiberglass in an amount of 30 wt% and 50 wt% by PA6-210KS and PA NE 50-1 brands correspondingly. As a biodegradable components were used crude natural rubber (NR-C) and natural rubber that has undergone of purification (NR-P) introduced into the polymer composition in an amount of 5 and 10%.

The results of physical and mechanical tests of samples of polymer compositions had been evaluated. Determined that with growth of quantity of entered NR strength characteristics are falling independently of its degree of purification. With increasing amount of injected NR-C indices largely decreased: for samples with NR-C they are from 6 to 34%, with NR-P they are from 9 to 37%.

The test for the aerobic biodegradation in soil during 6 months showed that to the greatest exposure the samples with NR-C content were subjected. The greatest weight loss – 5.8% was showed of the sample that contents 10% by weight of NR-C.